CLAIMS

I CLAIM:

1. A system for visually representing performance and flow analysis of a communication network having devices connected by links, comprising:

a first memory for storing a graphical representation of the communication network and showing the devices connected by links;

a second memory storing data representing performance and flows in the communication network;

a display; and

a processing system operatively connected to the first and the second memory and to the display, the processing system selectively mapping the data on the graphical representation of the communication network by varying visual characteristics of the devices and the links for viewing on the display.

2. The system of claim 1 wherein the second memory comprises a database of metric values for the devices and the links taken at select times.

3. The system of claim 2 further comprising a data collection system for collecting data from the devices and the links at the select times to build the database.

4. The system of claim 1 wherein the processing system selectively maps the data on the graphical representation of the communication network by varying size of the devices and the links for viewing on the display responsive to variation in performance and flows in the communication network.

5. The system of claim 1 wherein the processing system selectively maps the data on the graphical representation of the communication network by varying color of the devices and the links for viewing on the display responsive to variation in performance and flows in the communication network.

6. The system of claim 1 wherein the data comprises metrics of a plurality of performance and flow characteristics and the processing system maps select ones of the metrics responsive to selection of a desired view of the communication network.

7. A method for visually representing performance and flow analysis of a communication network having devices connected by links, comprising:

storing in a memory a graphical representation of the communication network and showing the devices connected by links;

storing in a memory data representing performance and flows in the communication network;

selectively mapping the data on the graphical representation of the communication network by varying visual characteristics of the devices and the links to build a graphical display; and

displaying the graphical display on a video display device.

8. The method of claim 7 further collecting data from the devices and the links at select times to build a database.

9. The method of claim 7 wherein selectively mapping the data comprises mapping the data on the graphical representation of the communication network by varying size of the devices and the links for viewing on the display device responsive to variation in performance and flows in the communication network.

10. The system of claim 7 wherein selectively mapping the data comprises mapping the data on the graphical representation of the communication network by varying

color of the devices and the links for viewing on the display device responsive to variation in performance and flows in the communication network.

11. The method of claim 7 wherein the data comprises metrics of a plurality of performance and flow characteristics in the communication network.

12. The method of claim 11 further comprising selecting a desired view of the performance and flows in the communication network, the desired view being represented by select ones of the metrics.

13. The method of claim 11 wherein selectively mapping the data on the graphical representation of the communication network comprises setting a scale of the metrics using minimum and maximum values of the metrics, the scales being used to vary visual characteristics of the devices and the links.

14. A method for mapping performance and flow analysis of a communication network having devices connected by links for display on a display device, comprising:

storing in a memory a graphical representation of the communication network and showing the devices connected by links;

storing in a memory data representing performance and flows in the communication network;

storing a plurality of symbols representing different devices and a plurality of edges representing links;

selectively mapping the data on the graphical representation of the communication network by varying visual characteristics of the symbols and the edges responsive to the performance and flows in the communication network to build a graphical display; and

displaying the graphical display on a video display device.

15. The method of claim 14 wherein selectively mapping the data comprises mapping the data on the graphical representation of the communication network by varying size of the symbols and the edges for viewing on the display device responsive to variation in performance and flows in the communication network.

16. The system of claim 14 wherein selectively mapping the data comprises mapping the data on the graphical representation of the communication network by varying color of the symbols and the edges for viewing on the display device responsive to variation in performance and flows in the communication network.

17. The system of claim 14 wherein the edges comprise bidirectional arrows for oriented metrics and varying visual characteristics of the bidirectional arrows comprises varying thickness of the arrows and contact point of the arrows.

18. The system of claim 14 wherein the edges comprise layered lines with each layer representing a different metric.

19. A system for mapping performance and flow analysis of a communication network having devices connected by links, comprising:

a first memory for storing a graphical representation of the communication network and showing the devices connected by links;

a second memory storing data representing performance and flows in the communication network;

a third memory storing a plurality of symbols representing different devices and a plurality of edges representing links;

processing means for selectively mapping the data on the graphical representation of the communication network by varying visual characteristics of the symbols and the edges responsive to the performance and flows in the communication network to build a graphical display.

20. The system of claim 19 wherein the processing means maps the data on the graphical representation of the communication network by varying size of the symbols and the edges responsive to variation in performance and flows in the communication network.

21. The system of claim 19 wherein the processing means maps the data on the graphical representation of the communication network by varying color of the symbols and the edges responsive to variation in performance and flows in the

communication network.

22. The system of claim 19 wherein the edges comprise bidirectional arrows for oriented metrics and the processing means varying visual characteristics of the bidirectional arrows comprises varying thickness of the arrows and contact point of the arrows.

23. The system of claim 19 wherein the edges comprise layered lines with each layer representing a different metric and the processing means maps the data on the graphical representation of the communication network by varying visual characteristics of each layer independently responsive to variation in performance and flows in the communication network.